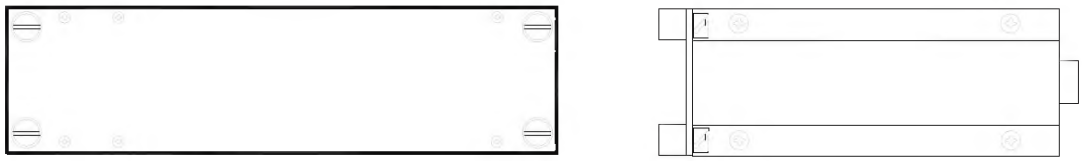
Air Comm Systems, Inc.

Six (6) Passenger ICS/Transmit Expansion Unit Installation and Operations Manual

ACS 179A



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ACS 179A Installation and Operations Manual
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ACS 179A Installation and Operations Manual
Physical and Operating Specifications

■ Physical Specifications

SIZE: *5.750 " W*
1.875 " H
4.550 " D w/ connector

WEIGHT: 1.0 lb.

ILLUMINATION: n/a

MOUNTING: Dzus rail mount or remote mounting using 4 hole configuration.

CONTROLS: Unit slaves off of an existing audio mixer panel, typically a co-pilot or crew member.

■ Operating Specifications

INPUTS: 4 audio inputs. 2 for mixed audio and 2 for the ICS buss. Mixed audio is muted during transmit and normal ICS. Mixed audio is unmuted during hot ICS operation.

DUTY CYCLE: Continuous

POWER REQUIREMENTS: 28V DC +/- 10%

MAXIMUM OPERATING ALTITUDE: 20,000 ft.

OPERATING TEMP. RANGE: -40 C to +85 C (operating), -65 C to +125 C (storage)

CURRENT DRAIN: 20 mA at 28V (standby), 800 mA at 28V (max. signal)

AUDIO OUTPUT: 500 mW into 600 ohms

FREQUENCY RESPONSE: Within 6 db - 300-3000Hz

ICS INPUT IMPEDANCE: 600 ohms

INPUT ISOLATION: Not less than 60 db between mixed audio and ICS buss.

AUDIO MUTING: Not less than 40 db during transmit/ICS (optional)

MIKE SENSITIVITY: 300 mV for rated output

DISTORTION: Less than 10% at 1000 Hz for maximum output

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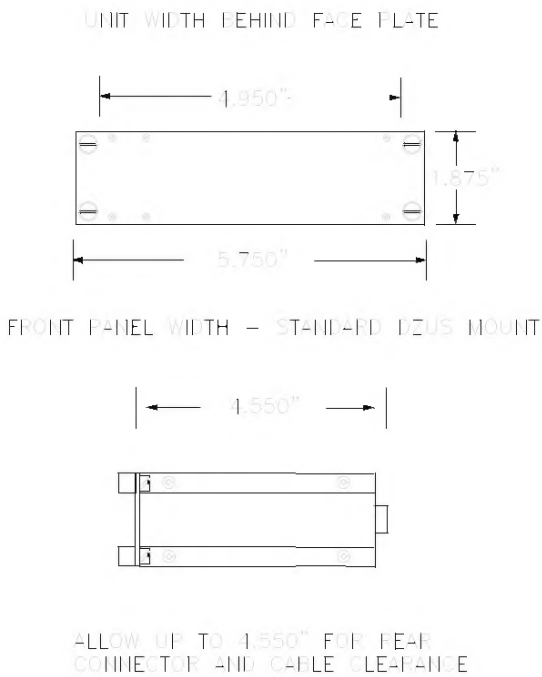
ACS 179A Installation and Operations Manual
Physical Dimensions

■ Physical Dimension Outline



Physical Installation

The ACS 179A is designed to be Dzus or remote mounted and should be installed in the aircraft using the ACS 179A Installation kit that was included with the unit. The above outline drawing of the unit with dimensions will facilitate the installation. The ACS 179A Installation Kit consists of the following:

Two (2) 25 pin AMP D-Subminiature female mating connector complete with crimp pins, hood, and slidelock.

The connector pin configuration of the ACS 179A rear connector and the recommended wire size for the aircraft cable harness is shown on the following page.

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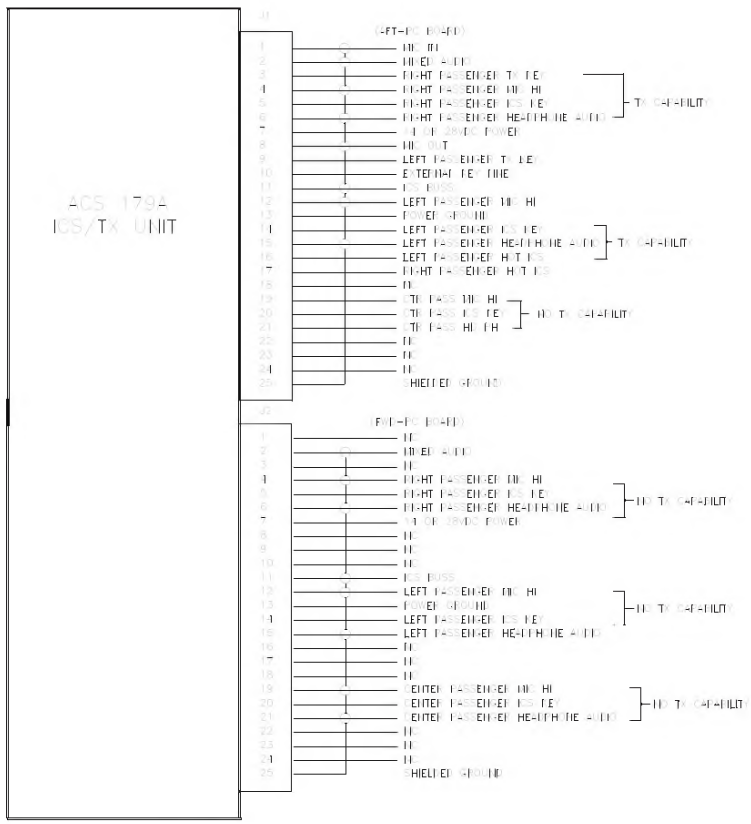
ACS 179A Installation and Operations Manual
Interface Schematic

■ Connector Schematic



The ACS 179A wiring harness should be constructed of Tefzel aircraft wire (M22759/16 grade). Power and ground wires should be 20 AWG, and all other wires may be 22 AWG. Shielded wires should be used where noted. Adequate protection against wear and chafing should be taken by using a braided cable sleeving or jacket. Before completing installation, verify that all cable connector pins are seated properly and that the connector is securely mounted to the unit mating connector. **Important — please note the power of the unit before installing; it will be either 14VDC or 28VDC and clearly marked as such on the unit's data tag.**

Pre-fabricated cable harnesses are available from Air Comm to expedite installation — consult our sales department for details.

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ACS 179A Installation and Operations Manual
Operations of the ACS 179A

■ Description

The ACS 179A is a compact, remote slave unit which provides intercom and receive capability for up to six (6) aircraft passengers. Additionally, two (2) have transmit capability if desired. Dip switch programmable.

■ Method of Operation

The ACS 179A is slaved to a master Audio Mixer Panel for receiving and transmitting. The master Audio Mixer is normally a co-pilot or rear-crew member unit. The audio inputs selected by the master panel will be heard by the ACS 179A.

The ACS 179A's transmit and intercom functions are activated using a switch and cord assembly (such as the Carter Engineering or Comm Innovations models). The switch cord assembly also provides a volume control for the adjustment of both the intercom and receive audio. This allows for the independent control of volumes between the passengers and the Audio Mixer they are slaved to.

Transmitting from the ACS 179A is a two-step process:

1) the desired radio must be selected on the master Audio Mixer's mic selector.
2) the switch cord must be placed in the transmit position.

NOTE: When either passenger transmits, the master Audio Mixer's microphone is automatically disconnected. This feature prevents the possibility of there being two microphones activated simultaneously during the transmit function.

During intercom or transmit operation , the receive audio is muted on the ACS 179A. During Hot ICS operation the receive audio is unmuted (each passenger has a separate Hot ICS switch).

NOTE: For USFS operation a jumper can be cut on each passenger PC board to disable this muting function.

■ Adjustments

The volume control on the switch cord assembly adjusts both the intercom and the receive audio. It should be set at a comfortable level on intercom first. Then, if the receive audio volume is too high or low, it can be adjusted at the radio itself (i.e. Com, FM, Nav, etc.)

■ Unit Compatibility

The ACS 179A is compatible with all Air Comm Audio Mixer Panels.

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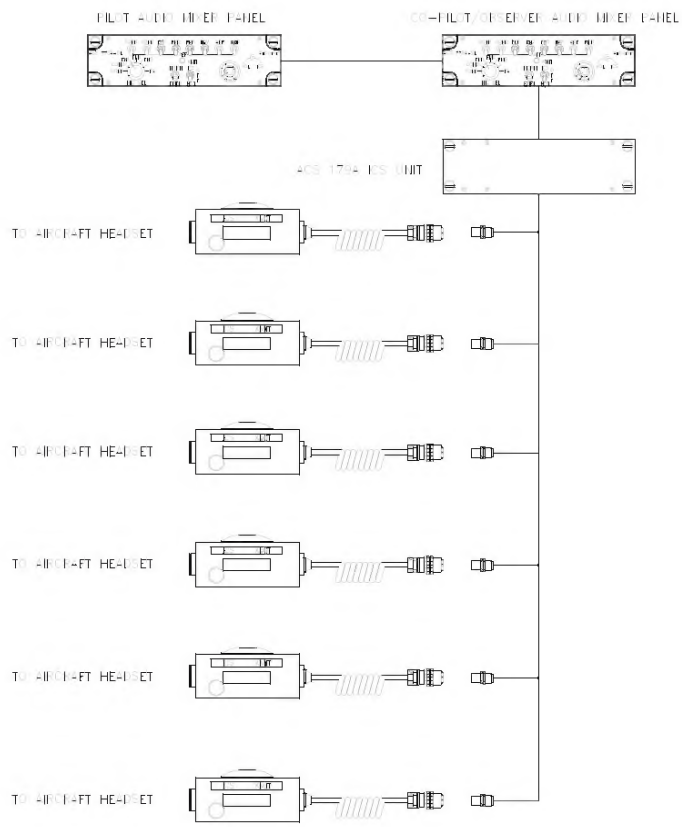
ACS 179A Installation and Operations Manual
Typical System Layout



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ACS 179A Installation and Operations Manual
Instruction for Continued Airworthiness

Instruction for continued airworthiness for Intercom Expansion Unit Model ACS-179A, Drawing No. 3000-000, PMA Approval No. PQ2074NM.

GENERAL DESCRIPTION:

The ACS-179A Expansion Unit is a remote Dzus mounted unit which is slaved to a variety of audio mixer panels to provide intercom and transmit capability to cabin passengers.

PURPOSE:

To provide instructions for the maintenance and inspection of the Air Comm Systems, Inc. Model ACS-179A Intercom Expansion Unit.

This Manual provides instructions supplementing the aircraft maintenance manual. These instructions only supersede the aircraft manual in the indicated areas.

OPERATIONAL CHECK:

The ACS 179A Intercom Expansion Unit should be checked prior to first flight each day per current operations manual.

MAINTENANCE:

Check security and condition of Dzus mounted panel(s), check associated wiring harnesses at periodic inspections such as annual/100 hour IAW FAR43 Appendix D(i).

On Condition:

Send ACS 179A Intercom Expansion Unit to a qualified repair facility for any repairs. Contact Air Comm Systems, Inc. Phone 909-0824-8860 or FAX 909-824-8862 for nearest factory authorized repair facility.

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■ Warranty Information

Air Comm Systems, Inc. warrants each new product to be free from defective material and workmanship and agrees to remedy any defect or to furnish a new part in exchange for any defective unit provided an examination discloses such defect occurred under normal use and service, and provided the defective unit is delivered to us, with transportation charges prepaid, within 1 year from the date of acceptance of equipment by the owner. Each unit required and claimed defective must be returned to:

Air Comm Systems, Inc.
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Lake Havasu City, AZ 86403
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This warranty does not extend to any products which have been subjected to misuse, neglect, accident, or in violation of instructions furnished, nor does it extend to units which have been repaired or altered outside of our factory except where such repairs are specifically authorized in writing by us.This warranty is in lieu of all other warranties expressed or implied, and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

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